

CROUSE-HINDS
SERIES

LED lighting for heavy industrial areas

Champ PLLA

LED lighting for heavy industrial areas



Safe. Reliable. Efficient.
2 models – 4,000 & 8,000 lumens

EATON

Powering Business Worldwide

Safe. Reliable. Efficient.

Featuring a broad range of LED luminaires for harsh and hazardous environments, Eaton's Crouse-Hinds delivers lighting solutions that perform reliably in even the worst operating conditions. **This reduces your energy, maintenance and manpower costs.**



Why LED?

Useful life

Rated life is up to 60,000 hours of maintenance-free and safe operation

Energy efficiency

LED average energy consumption is 65% less than T12, T8 and T5HO fluorescent fixtures

Start/restart time

Instant illumination vs. 10 minute restrike time for fluorescent

Light quality

Higher color rendering and color temperature compared to fluorescent

Environmental benefits

Mercury-free LED eliminates disposal costs and lower energy consumption for a smaller carbon footprint

Why Crouse-Hinds?

Industry-best reliability

Built to withstand extreme temperatures, vibration, water and dust

Thermal management

Effective heat sinking ensures longer life

Quality of light

Custom optics designed to maximize light distribution and intensity

Versatile mounting options

Five mounting options for maximum ease of installation

Servicable drivers

Easy access to drivers for service or replacement

Design features

High efficacy:

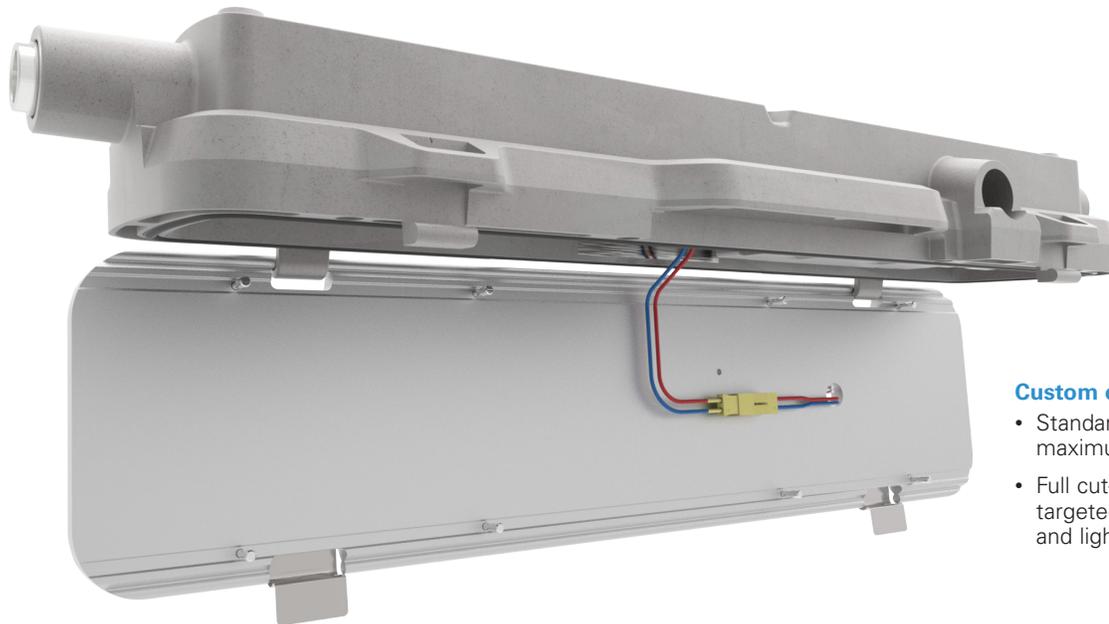
- Up to 134 lumens per watt (PLLA2 with UNV1 driver)

Quick & easy installation:

- Easy access to drivers and wiring
- No custom brackets or hardware needed

Comprehensive certification:

- Single model certified for use in harsh industrial or marine applications



Custom optics:

- Standard wide beam spread for maximum illumination on wall panels
- Full cut-off beam spread option for targeted illumination; avoids spillage and light loss

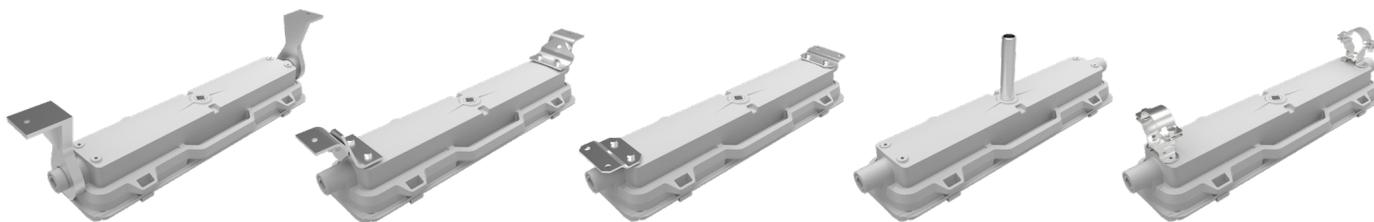
Slim profile:

- 4.4" fixture height (excluding mounting brackets)
- Perfect for mounting in confined or low height areas

Built to last:

- Ingress protection from hose down water or diesel fuel in harsh operational conditions – passed 2,000 psi high pressure test
- Vibration-, impact- and shock-resistant – passed 5G, 3-axis vibration test
- 60,000 hour lifetime @ 55°C ambient

Versatile mounting options:



Offset ceiling/wall

Offset ceiling swivel

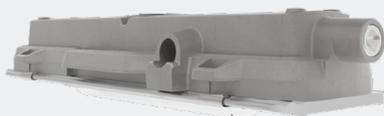
Flush mount (standard)

Pendant (standard)

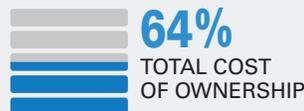
Pole mount

Why choose Champ PLLA LEDs?

Reliable lighting. PLLA LED luminaires are engineered to deliver high lumen output and maintenance-free long life in the toughest conditions.



PLLA2 vs. 2-lamp T5HO



Assumptions: Calculations based on overall life of the LED system. Energy cost of \$.09 per kilowatt; 24 hour per day operation; labor rate of \$75 each for 2 workers; average time for fixture maintenance of 1 hour.

Champ® PLLA linear LED luminaires

The Champ Pro Series PLLA Linear LED by Eaton's Crouse-Hinds is specifically designed to replace fluorescent T12, T8 and T5HO lighting in heavy and harsh industrial applications. The rugged and durable design features the industry's most versatile and flexible mounting options. The PLLA is the ideal solution for high vibration, impact and hose down applications.

Applications:

Ideal for a variety of non-hazardous applications such as mining, food processing, marine, wastewater treatment, heavy manufacturing and general wash down areas.

Key features & benefits:

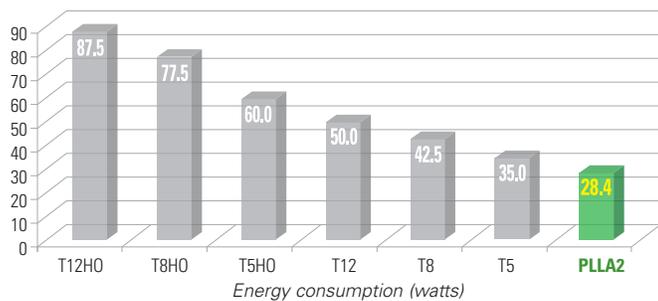
- High efficacy: up to 134 LPW (PLLA2 with UNV1 driver)
- Dimmable driver, 0-10V
- -40°C to +65°C ambient operating temperature (standard model)
- 0°C to +40°C ambient operating temperature (emergency battery back-up model)
- Integral emergency battery back-up: 90 minute run-time and ≥1,000 lumens (all models)
- Low profile (~4" height)
- Ceiling/swivel, wall, flush, pole and pendant mounting options
- Wide and narrow optics for uniform illumination
- Four points of secondary retention
- 2,000 psi high pressure hose rated
- High vibration resistance
- Surge protection (Standard): 4kV line to line, 6kV line to earth
- Surge protection (with SRG1 or SRG3 suffix): ≥10kV line to line, ≥10kV line to earth
- 5 year fixture warranty†

† Refer to the authorized distributor price book for Eaton's Crouse-Hinds series standard Terms and Conditions.



Energy consumption comparison

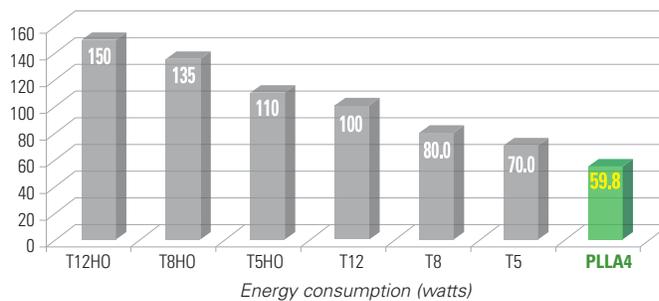
2 foot PLLA linear LED vs. fluorescent



Model	Typical lumens	Wattage	Lumens per watt	Equivalent HID luminaire	Typical energy savings / lifetime
PLLA2	4,000	30.3	132	T12HO	Up to 67%
				T8HO	Up to 63%
				T5HO	Up to 52%
				T12	Up to 42%
				T8	Up to 32%
				T5	Up to 17%

All luminaires in the comparison are 2 lamp, 2 foot, UNV1

4 foot PLLA linear LED vs. fluorescent



Model	Typical lumens	Wattage	Lumens per watt	Equivalent HID luminaire	Typical energy savings / lifetime
PLLA4	8,000	58.9	135	T12HO	Up to 64%
				T8HO	Up to 60%
				T5HO	Up to 50%
				T12	Up to 46%
				T8	Up to 32%
				T5	Up to 22%

All luminaires in the comparison are 2 lamp, 4 foot, UNV1

Specifications

Certifications:

NEC/CEC standards:

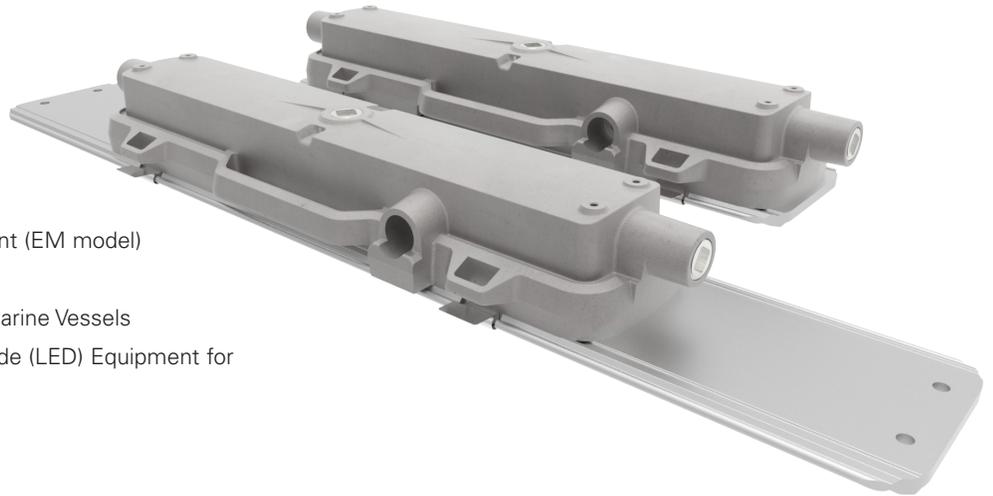
- Type 4X; IP66/67
- Marine and Wet Locations

UL standards:

- UL924 for Emergency Lighting Equipment (EM model)
- UL1598 Luminaire
- UL1598A Luminaire for Installation on Marine Vessels
- UL 8750 Standard for Light Emitting Diode (LED) Equipment for Use in Lighting Products

CSA standard:

- C22.2 No. 141 and 250



Mounting:

Versatile mounting options:

- Flush back mount
- Swivel/ceiling back mount
- Offset ceiling/wall mount
- Pole mount
- Pendant mount

Temperature ratings:

Ambient temperature	Min. temp. wire supply
40°C	75°C
55°C	75°C
65°C	90°C

Materials:

Housing:

- Copper-free aluminum
- Optional Corro-free™ epoxy powder coat

Lens:

- Clear glass or polycarbonate
- Diffused glass or polycarbonate

Weights:

Model	lbs.	kg.
PLLA2	15.1	6.8
PLLA4	19.5	8.9

Electrical ratings:

UNV1	Input power (watts)	Input amps at 120-277 VAC	UNV34	Input power (watts)	Input amps at 347-480 VAC
PLLA2	30.3	0.25	PLLA2	31.1	0.09
PLLA4	58.9	0.49	PLLA4	54.6	0.16

UNV1	
Voltage range, VAC	120-277V at 50/60 Hz
Voltage range, VDC	127/250V

UNV34	
Voltage range, VAC	347-480V at 50/60 Hz

UNV1	Power factor	THD	UNV34	Power factor	THD
PLLA2	>0.92	<6.5%	PLLA2	>0.95	<18%
PLLA4	>0.94	<6.2%	PLLA4	>0.98	<10%



Ordering information

Part number example

PLLAW4NCS-UNV1-S903-1R-SRG1-EM1-P-M2

Champ PLLA-M2 linear LED, warm white, 4 foot, full cut off optics, ceiling/swivel mount, 120-277 VAC driver, clear polycarbonate lens, 3/4" hubs with 1/2" reducers, integrated 10kV surge protection module, integral emergency battery back-up, gray epoxy paint

PLL A W 4 N CS – UNV1 – S903 – 1R – SRG1 – EM1 – P – M2

Series

PLLA	Champ PLLA LED
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Color temperature

BLANK	Cool white, 5000K, 80 CRI
N	Neutral white, 4000K, 80 CRI
W	Warm white, 3000K, 80 CRI

Length/lumens

4	4 ft. length, 8,000 lumens
2	2 ft. length, 4,000 lumens

Optics*

BLANK	Standard
N	Full cut off

*Full cutoff option available with clear lens options only.

Voltage

UNV1	120-277 VAC; 127/250 VDC
UNV34	347-480 VAC

Lens

BLANK	Clear glass
S891	Diffused glass
S903	Clear polycarbonate
S903D	Diffused polycarbonate

Mounts*

BLANK	Flush ceiling/wall mount
CS	Ceiling/swivel mount
CW	Ceiling/wall mount offset
P12	Pole mount, 1.25" diameter
P15	Pole mount, 1.50" diameter
P20	Pole mount, 2.00" diameter

*Pendant mount is integral to fixture and available on all models regardless of mounting option chosen. (see page 13 for details)

Entries

BLANK	3/4" NPT entries
1R	3/4" NPT entries with 1/2" reducers

Enhanced surge

SRG1	120-277 VAC integrated 10kV surge protection module
SRG3	347-480 VAC integrated 10kV surge protection module

Finish

BLANK	Natural aluminum
P	Painted (gray, epoxy)
WH	Painted (white, epoxy)

Emergency*

EM1	Integral emergency battery back-up
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*EM1 option available only with UNV1 power option.

Mounting kits (ordered separately)

M2-FLUSH-MT-KIT	Flush ceiling/wall mount
M2-CEILING-SWIVEL-KIT	Ceiling/swivel mount
M2-CEILING-WALL-KIT	Ceiling/wall mount offset
M2-PM-KIT-1.25	Pole mount kit, 1.25" diameter
M2-PM-KIT-1.5	Pole mount kit, 1.50" diameter
M2-PM-KIT-2.0	Pole mount kit, 2.00" diameter
SS KIT	Safety chain kit

Note: Conduit entry plugs and mounting kits are shipped with the fixture based on the mounting type selected within the catalog structure. Individual mounting kits are also available, should you wish to change the mounting style in the field.

Replacement driver kits (ordered separately)

M2-MLLA2-UNV1-DRIVER-KIT	120-277 VAC driver replacement for 2ft linear
M2-MLLA2-UNV34-DRIVER-KIT	347-480 VAC driver replacement for 2ft linear
M2-MLLA4-UNV1-DRIVER-KIT	120-277 VAC driver replacement for 4ft linear
M2-MLLA4-UNV34-DRIVER-KIT	347-480 VAC driver replacement for 4ft linear

Replacement battery back-up kit (ordered separately)

MLLA-EM1-M2-KIT	Replacement battery, emergency driver, gasket and mounting hardware
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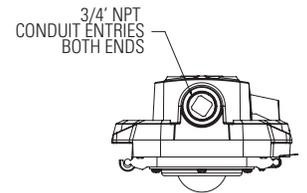
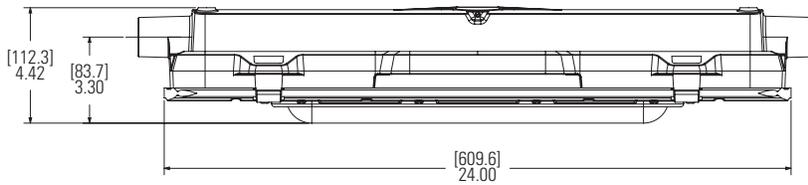
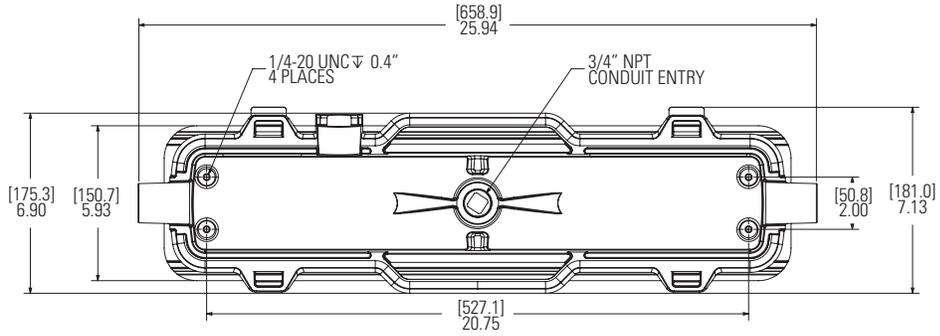
Replacement surge module kits (ordered separately)

M2-MLLA-SRG1-KIT	Replacement UNV1 surge module, bracket, wiring terminals and mounting hardware
M2-MLLA-SRG3-KIT	Replacement UNV34 surge module, bracket, wiring terminals and mounting hardware

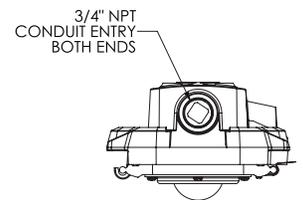
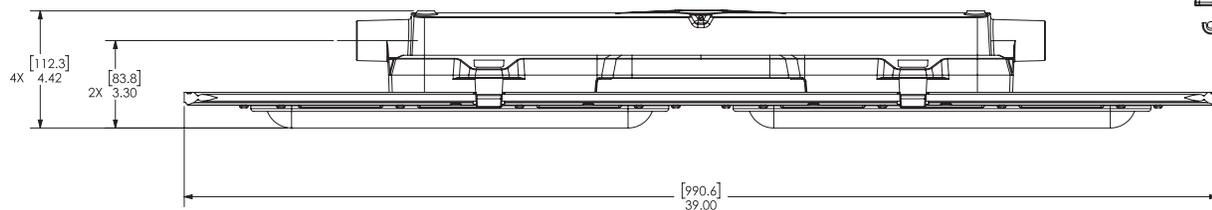
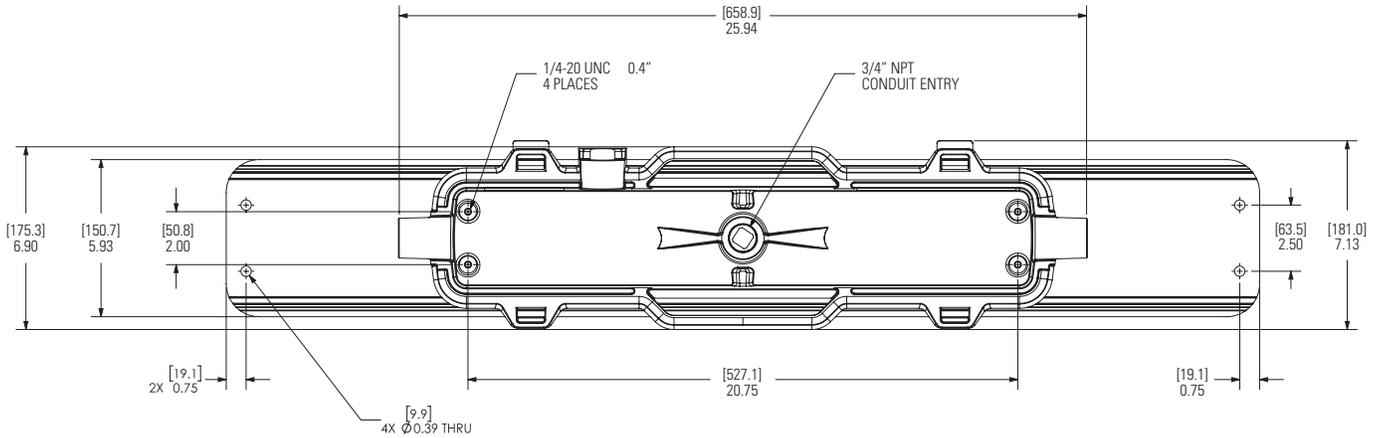


Dimensions

PLLA2-M2

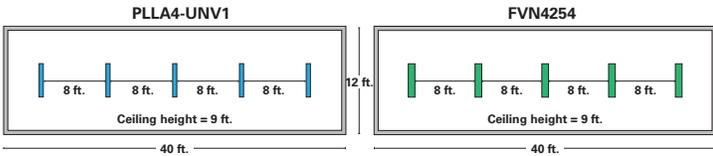
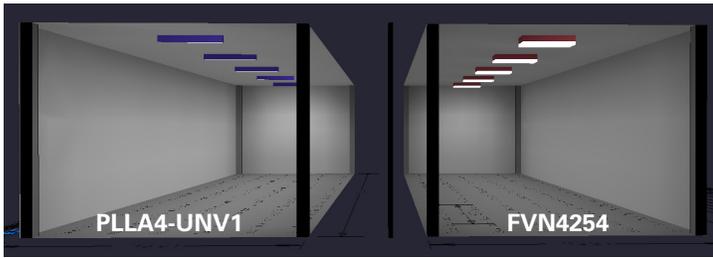


PLLA4-M2



Photometrics: control room/pump shed

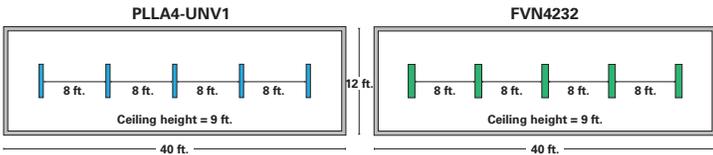
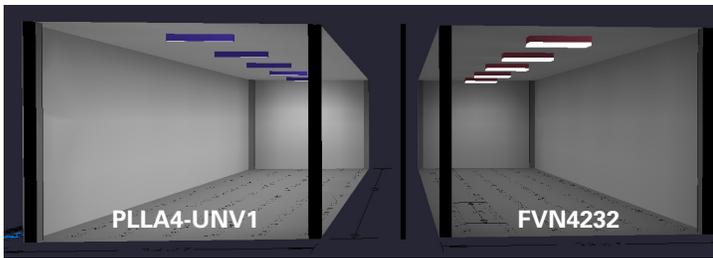
4 foot PLLA LED with 120° optics vs. 4 foot 2 lamp T5HO FVN



Illuminance (Fc)	PLLA4-UNV1	FVN4254
Average	44.87	33.78
Maximum	55.40	42.50
Minimum	25.20	18.90
Average/minimum	1.78	1.79
Maximum/minimum	2.20	2.25

Higher average illumination than 2 lamp T5HO FVN and up to 50% energy savings

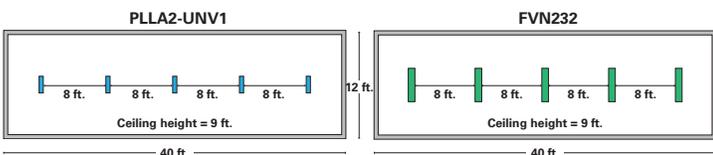
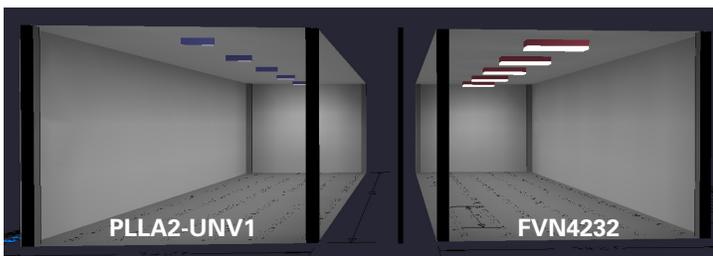
4 foot PLLA LED with 120° optics vs. 4 foot 2 lamp T8 FVN



Illuminance (Fc)	PLLA4-UNV1	FVN4232
Average	44.87	22.46
Maximum	55.40	28.30
Minimum	25.20	12.40
Average/minimum	1.78	1.81
Maximum/minimum	2.20	2.28

Twice the average illumination of 2 lamp T8 FVN

2 foot PLLA LED with 120° optics vs. 4 foot 2 lamp T8 FVN

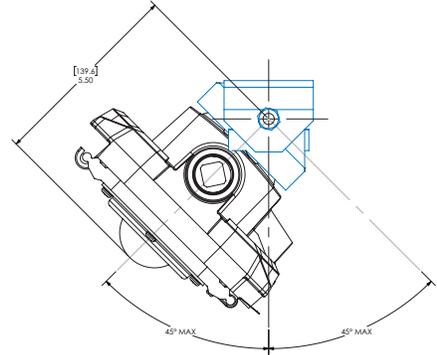
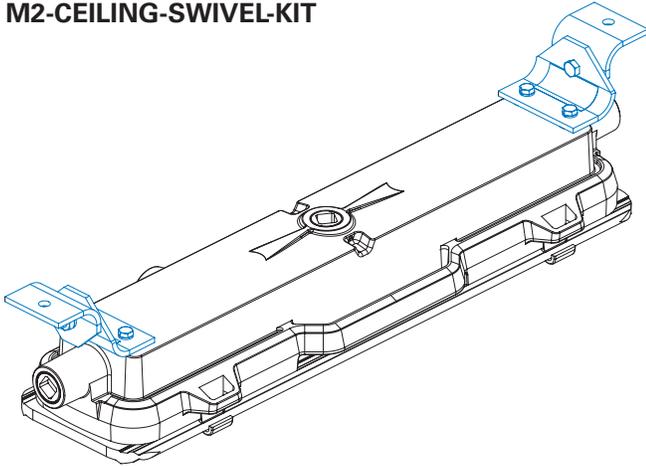


Illuminance (Fc)	PLLA2-UNV1	FVN4232
Average	22.57	22.04
Maximum	27.90	27.70
Minimum	12.70	12.00
Average/minimum	1.78	1.84
Maximum/minimum	2.20	2.31

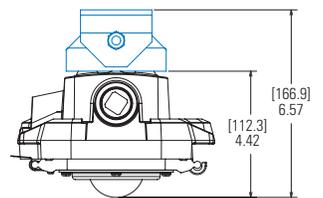
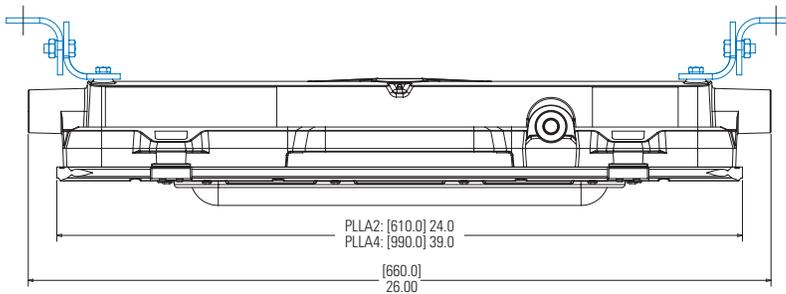
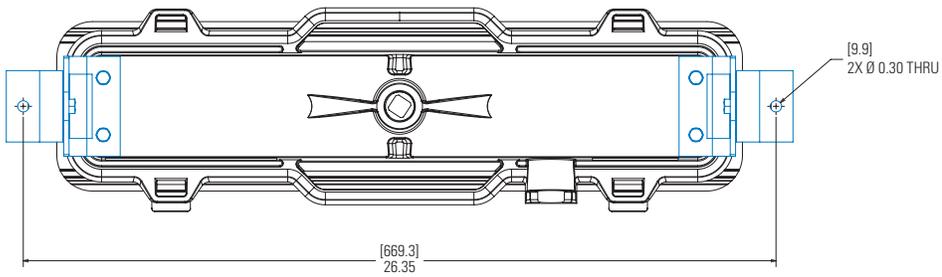
Equivalent illumination to a 2 lamp T8 FVN and up to 50% energy savings

Mounting options

Ceiling mount swivel kit M2-CEILING-SWIVEL-KIT

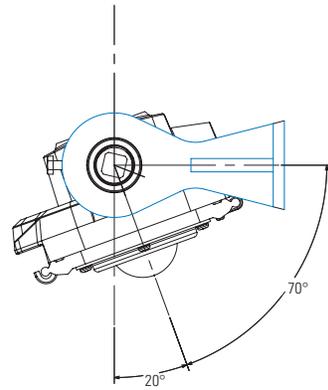
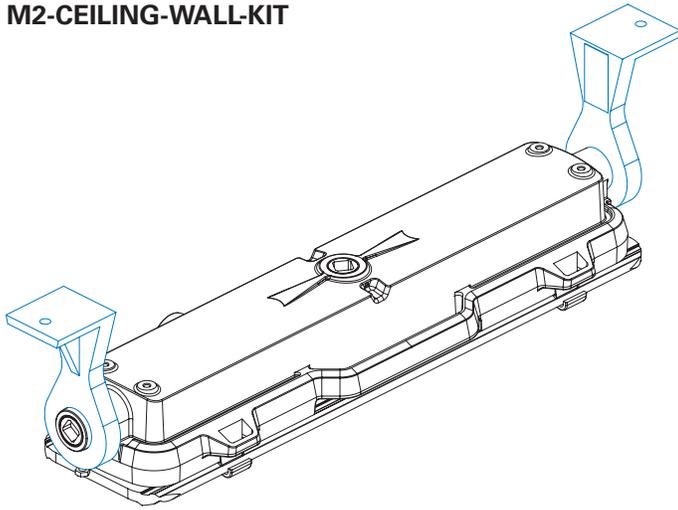


MAXIMUM ROTATION, CEILING SWIVEL MOUNT

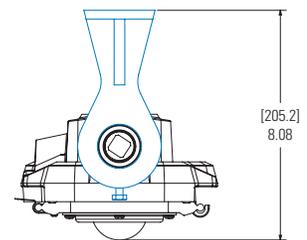
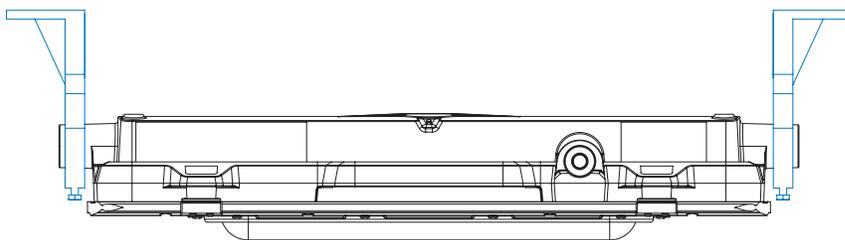
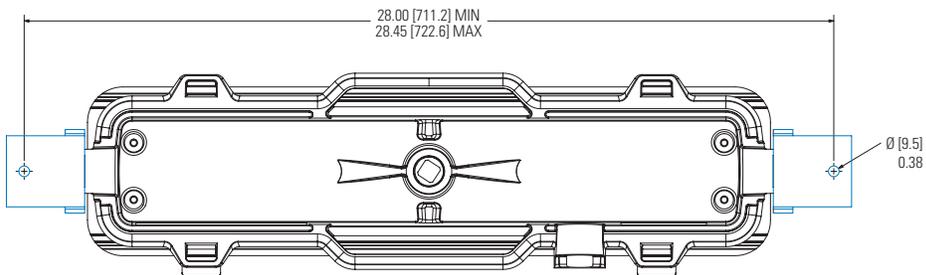


Mounting options

Ceiling/wall mount kit M2-CEILING-WALL-KIT

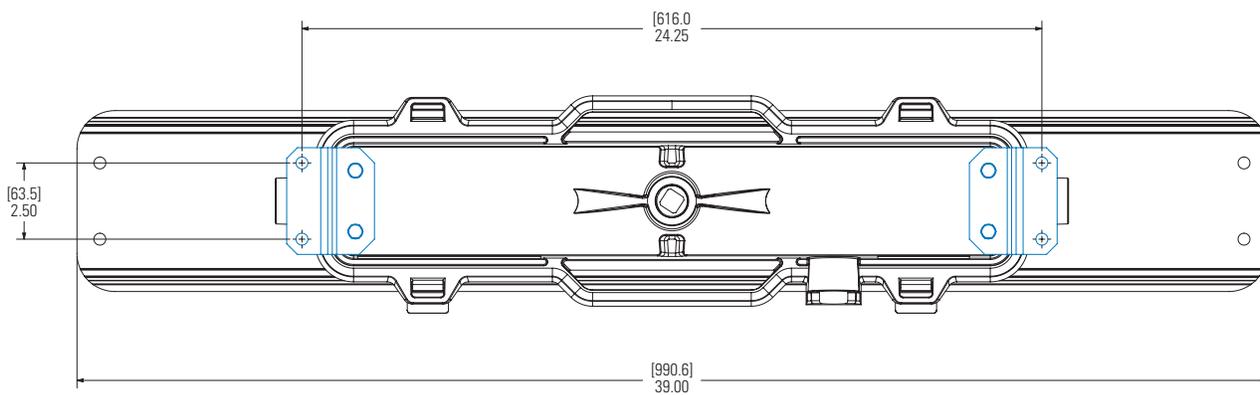
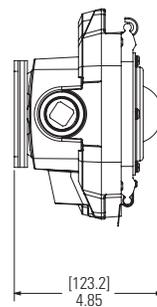
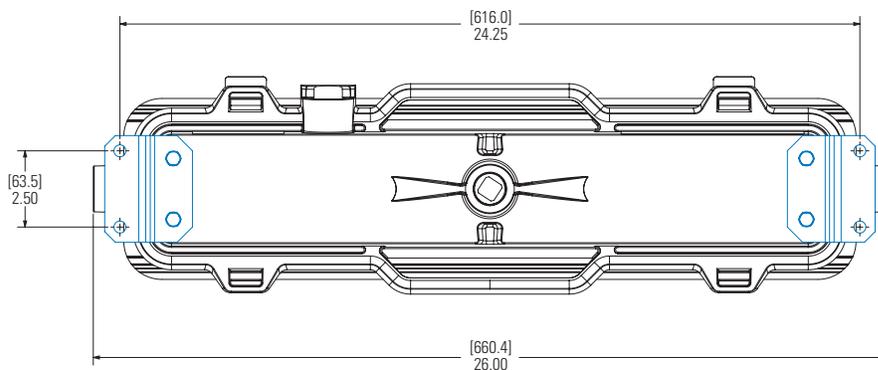
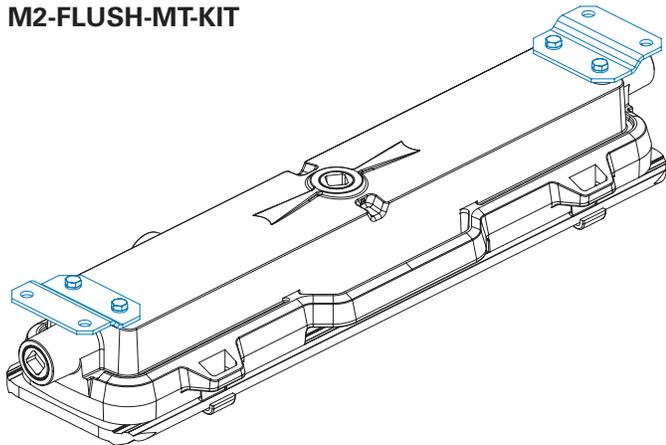


MAXIMUM ROTATION, WALL MOUNTING



Mounting options

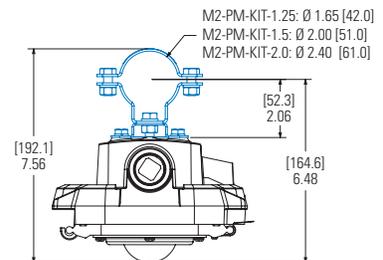
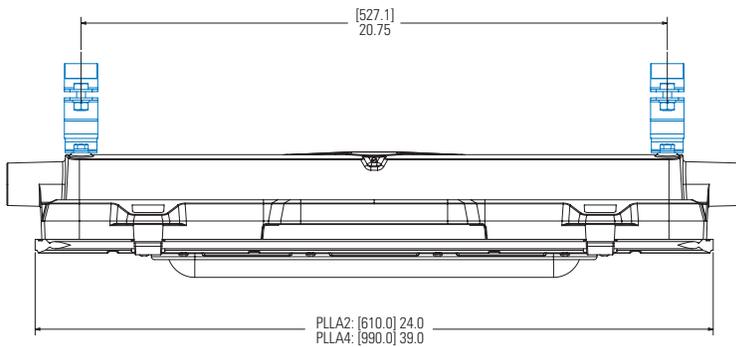
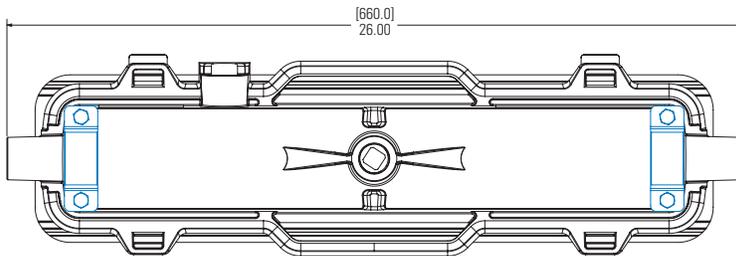
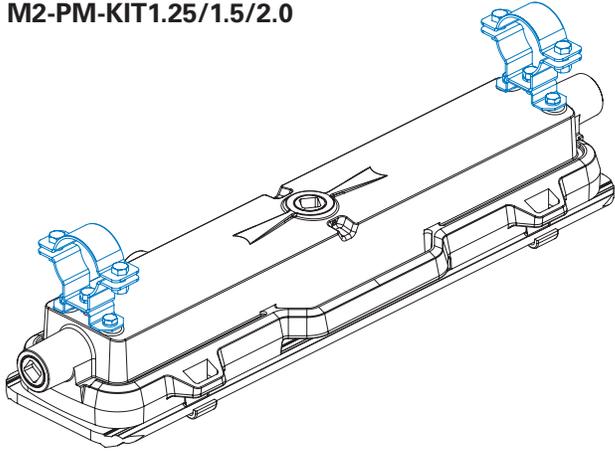
Flush mount kit M2-FLUSH-MT-KIT



Mounting options

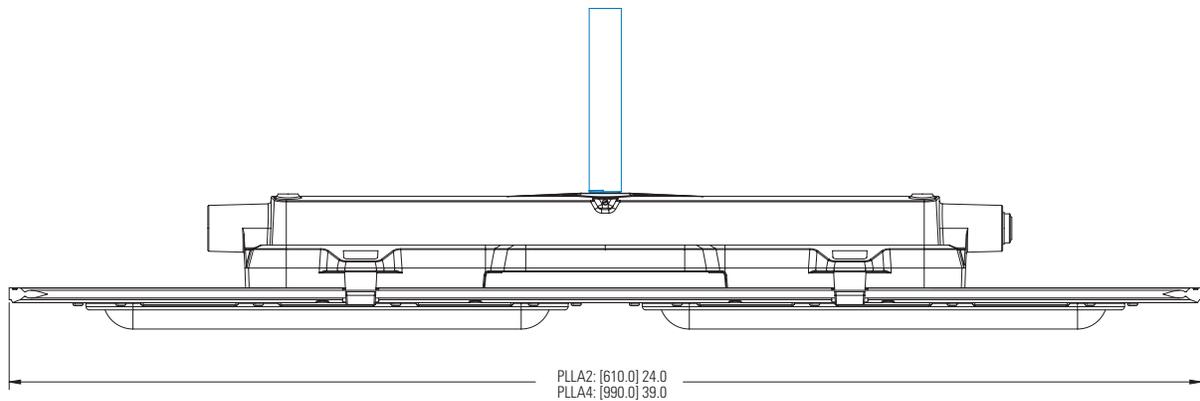
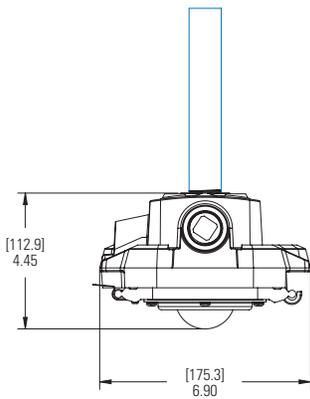
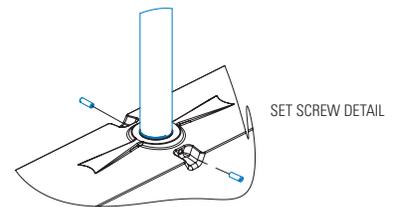
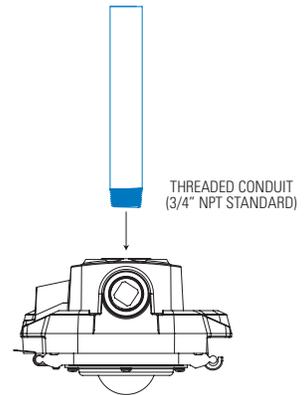
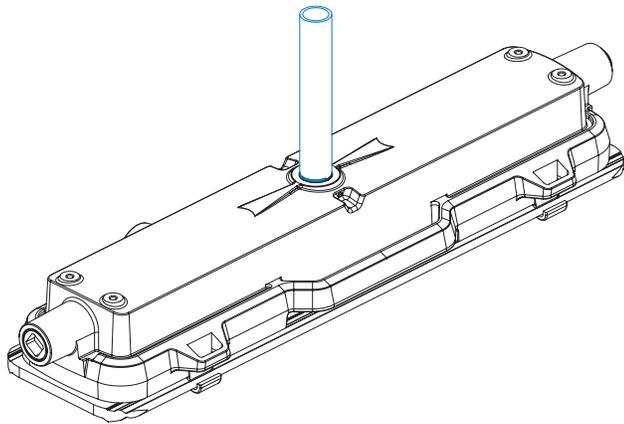
Pole mount kit

M2-PM-KIT1.25/1.5/2.0



Mounting options

Pendant mount



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